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Heart Failure

CAN MEDICATIONS BE SAFELY WITHDRAWN IN PATIENTS WITH HEART FAILURE? SYSTEMATIC REVIEW AND META-ANALYSIS OF AVAILABLE DATA

ACC Moderated Poster Contributions
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Session Title: Innovations in Heart Failure Therapy: Statins to Stem Cells
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Background: Heart failure (HF) management involves multiple medications with resultant polypharmacy. There is little guidance on the safety and impact on clinical outcomes of stopping HF medications. The aim of this study was to evaluate and synthesise evidence regarding studies of medication withdrawal in patients with heart failure.

Methods: Comprehensive systematic search of the medical literature for prospective studies of withdrawal of drug therapy in patients with stable chronic systolic HF.

Results: Thirty-one studies met inclusion criteria. Four trials (251 subjects) of ACE inhibitor withdrawal showed deterioration in exercise tolerance and echocardiographic parameters. Six studies (148 subjects) of beta blocker (BB) withdrawal showed deterioration in left ventricular ejection fraction (LVEF) and clinical status. Long-term outcomes were variable. Meta-analysis of seven studies of digoxin withdrawal (in a total of 2987 participants) prior to use of BB as standard of care, showed increased HF hospitalisations (risk ratio 1.32, 95% confidence interval 1.17, 1.48 $p<0.001$), but no impact on mortality (RR 1.00, 95% CI 0.90-1.11, p=NS) and no reduction in all-cause hospitalisation (RR 1.03, 95% CI 0.98, 1.10, p=NS). Six studies (102 subjects) on vasodilator withdrawal showed variable hemodynamic rebound with clinical deterioration observed in a small number. Six studies (126 subjects) of inotropic agent introduction and then withdrawal in general showed return to baseline hemodynamic and exercise parameters. There were no trials of withdrawal of angiotensin II receptor blockers, aldosterone antagonists, amiodarone or aspirin.

Conclusion: Studies of medication withdrawal in stable chronic HF are generally small and most occurred prior to the introduction of ACE inhibitors and BB as standard care. Withdrawal of therapies with proven mortality benefit was associated with worsening of outcomes associated with HF. Therapies without mortality benefit did not show severe deterioration in HF status. No withdrawal studies exist for a number of medications used in HF patients.